

Suggested Pre-Hurricane Activities for Water and Wastewater Facilities

9/17/03

As the East Coast prepares for potential emergencies related to hurricane Isabel's landfall, the U.S. Environmental Protection Agency's, Water Security Division has developed a check list to assist drinking water and wastewater facilities in hurricane readiness. Recognizing that water utilities will want to remain in operation (e.g., sustaining adequate pressure and disinfection) as long as possible, water facilities might consider the following steps in preparation for severe weather conditions. (Another checklist focusing on restoring services is under preparation.)

A. General:

1. Line up and schedule emergency operations and clean up crews.
2. Notify State and Federal Agencies (FEMA and others) of location and telephone numbers of the emergency operating center or command post for the utility. For public water systems, be sure to line up contacts to request emergency water supply, if necessary.
3. Notify media where to access information and press advisories.
4. Arrange for food and water for the crews.
5. Notify and set up clear lines of communication with local authorities, such as police and fire in case of an injury or other emergency.
6. Make arrangements with the local power utility to be prepared to disconnect power to the plant if plant is evacuated or if power lines are downed and to restore power as a primary customer.
7. Make arrangement with local companies to purchase materials and supplies and to borrow/lease heavy equipment needed to make repairs to the plant.
8. Make arrangement with local companies to have materials and chemicals delivered to the plant as soon as it is safe and units are repaired and ready for operation.

B. Grounds and Common Areas:

9. Check inventory of emergency repair equipment and supplies (i.e., sand and sand bags, hand shovels, power equipment, fuel, batteries, flashlights, portable radio, first aid kits, etc.). Resupply if possible.
10. Stock service vehicles with equipment and supplies.

11. Fuel all vehicles and emergency generators.
12. Move service vehicles to high ground (above expected flood crest).
13. Check all communications equipment and charge or replace batteries (i.e., two way radios, cell phones, walkie-talkies, pagers, etc.).
14. Sand bag critical areas.
15. Board up critical windows and doors to prevent wind damage.
16. Shut down exposed pipes at river crossing to prevent discharge of raw sewage or to prevent loss or contamination of potable water, if the pipes break.

C. Administration and Laboratory Buildings:

17. Remove portable electrical equipment and small motors from the flood zone.
18. Remove all sensitive laboratory equipment from the flood zone, where possible.
19. Remove or store computers in a safe area.
20. Remove or store all important records in a safe area.
21. Move vital records such as built drawings, wiring diagrams, etc. to the emergency operations center or command post.
22. Remove or store furnishings in a safe place, when practical.
23. Disconnect electrical power to the building, if it is evacuated.

D. Treatment Plant and Pumping Stations:

24. Fill empty tanks with water to prevent floating.
25. Disconnect power to all units in the flood zone. Have the power utility disconnect power to the entire plant, if ordered to evacuate the facility.
26. Remove or move chemicals to a safe area. If chemicals are removed from an underground or above ground tank, fill the tank with water to prevent floating.
27. Remove fuel from under ground tanks to prevent contamination of the fuel and to protect the environment. If possible move above ground fuel storage tanks to a safe area (fuel will be needed for emergency and plant vehicles until new supplies arrive. If it is not practical to move above ground fuel storage tanks, remove the fuel and fill tanks with water.

28. Remove electrical motors, where possible.
29. When it is not practical to remove large motors, wrap the motors in plastic and seal as tight as possible. This will not keep the motor from getting wet, but will protect the motor from silt, mud, and dirt getting into the windings. Submerged motors can be washed with clean water and dried, and in most case restored to service.
30. Remove shop tools and electrical hand tools to the emergency operations center or command post.
31. For drinking water systems, as appropriate try to have elevated storage at full capacity.